

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer-implemented method of rendering a glyph to make the glyph more readable, comprising:
performing operations by a computer, the operations comprising:
 - receiving a glyph associated with a font, the glyph to be rendered at a size;
 - calculating by a programmable processor of the computer a set of initial density values to provide one density value for each of a set of device pixels to represent the glyph;
 - calculating by the programmable processor an initial adjustment value for the glyph;
 - for one or more of the device pixels in the set of device pixels, calculating by the programmable processor a length of an edge of the glyph that passes through the device pixel;
 - for one or more of the device pixels, adjusting the initial density value of the device pixel by a final adjustment value, the final adjustment value based upon the initial adjustment value and the length of the edge of the glyph passing through the device pixel; and
 - providing a representation of the glyph on a display device of the computer.
2. (Original) The method of claim 1, wherein calculating an initial adjustment value comprises:
 - determining a standard stem width for the font;
 - calculating a scaled stem width from the standard stem width and the size; and
 - determining an initial adjustment value based on the scaled stem width.
3. (Original) The method of claim 1, wherein calculating an initial adjustment value comprises:
 - determining a horizontal standard stem width and a vertical standard stem width for the font;

calculating a horizontal scaled stem width from the horizontal standard stem width and the size and calculating a vertical scaled stem width from the vertical standard stem width and the size;

determining a horizontal initial adjustment value based on the horizontal scaled stem width and determining a vertical initial adjustment value based on the vertical scaled stem width; and

wherein the final adjustment value is based upon the horizontal initial adjustment value, the vertical initial adjustment and the horizontal and vertical lengths of the edge of the glyph passing through the device pixel.

4. (Original) The method of claim 1, wherein for a stroke of the glyph that is to be asymmetrically adjusted, calculating an initial adjustment value comprises:

determining a standard stem width for the font;

calculating a scaled stem width from the standard stem width and the size; and

determining an initial adjustment value for a subset of device pixels forming an edge of the stroke based on the scaled stem width and the initial density values of the subset of device pixels.

5. (Original) The method of claim 1, wherein calculating a length of an edge of the glyph that passes through the device pixel comprises:

rendering a high resolution bitmap representation of the glyph, the bitmap being representative of the initial density values; and

identifying initial adjustment pixels along the edges of the high resolution bitmap representation of the glyph, the initial adjustment pixels being high resolution pixels representative of the initial adjustment value of the glyph;

wherein the length of the edge of the glyph that passes through a device pixel is a ratio of the number of initial adjustment pixels in a direction to a grid ratio in a corresponding direction.

6. (Original) The method of claim 5, wherein the glyph is to be rendered without carrying adjustment in a y direction and wherein the identifying initial adjustment pixels step includes not

identifying initial adjustment pixels along an edge of the high resolution bitmap that coincides with a device pixel boundary in the y direction.

7. (Original) The method of claim 5, wherein identifying initial adjustment pixels along the edges of the high resolution bitmap includes identifying initial adjustment pixels in a neighboring device pixel to a device pixel having an initial density value equal to a maximum density value, where the neighboring device pixel has an initial density value of zero, the method further comprising:

calculating a length of an edge of the glyph that passes through the neighboring device pixel; and

adjusting the initial density value of the neighboring device pixel by a final adjustment value, the final adjustment value based on the initial adjustment value and the length of the edge passing through the neighboring device pixel.

8. (Original) The method of claim 1, wherein the font is a Type 1 font.

9. (Original) The method of claim 1, wherein the font is a TrueType font.

10. (Currently Amended) A computer-implemented method of rendering a stroke, comprising: [[,]]

in a processor operatively coupled to a display device, performing the actions of:

receiving a path representing a stroke to be rendered at a given stroke width;

calculating a set of initial density values to provide one density value for each of a set of device pixels of the display device to represent the stroke;

calculating an initial adjustment value for the stroke;

for one or more of the device pixels in the set of device pixels, calculating a length of an edge of the stroke that passes through the device pixel; and

for one or more of the device pixels, adjusting the initial density value of the device pixel by a final adjustment value, the final adjustment value based upon the initial adjustment

value and the length of the edge of the stroke passing through the device pixel; and
providing a representation of the stroke on the display device.

11. (Canceled)

12. (Canceled)

13. (Previously Presented) A computer-readable medium encoded with a computer program for rendering a glyph to make the glyph more readable, comprising instructions operable to cause a programmable processor to:

- receive a glyph associated with a font, the glyph to be rendered at a size;
- calculate a set of initial density values to provide one density value for each of a set of device pixels to represent the glyph;
- calculate an initial adjustment value for the glyph;
- for one or more of the device pixels in the set of device pixels, calculate a length of an edge of the glyph that passes through the device pixel;
- for one or more of the device pixels, adjust the initial density value of the device pixel by a final adjustment value, the final adjustment value based upon the initial adjustment value and the length of the edge of the glyph passing through the device pixel; and
- provide a representation of the glyph on a display device.

14. (Previously Presented) The computer readable medium of claim 13, wherein instructions operable to calculate an initial adjustment value comprise instructions operable to:

- determine a standard stem width for the font;
- calculate a scaled stem width from the standard stem width and the size; and
- determine an initial adjustment value based on the scaled stem width.

15. (Previously Presented) The computer readable medium of claim 13, wherein instructions operable to calculate an initial adjustment value comprise instructions operable to:

- determine a horizontal standard stem width and a vertical standard stem width for the font;

calculate a horizontal scaled stem width from the horizontal standard stem width and the size and calculate a vertical scaled stem width from the vertical standard stem width and the size;
determine a horizontal initial adjustment value based on the horizontal scaled stem width and determine a vertical initial adjustment value based on the vertical scaled stem width; and
wherein the final adjustment value is based upon the horizontal initial adjustment value, the vertical initial adjustment and the horizontal and vertical lengths of the edge of the glyph passing through the device pixel.

16. (Previously Presented) The computer readable medium of claim 13, wherein for a stroke of the glyph that is to be asymmetrically adjusted, instructions operable to calculate an initial adjustment value comprise instructions operable to:

determine a standard stem width for the font;
calculate a scaled stem width from the standard stem width and the size; and
determine an initial adjustment value for a subset of device pixels forming an edge of the stroke based on the scaled stem width and the initial density values of the subset of device pixels.

17. (Previously Presented) The computer readable medium of claim 13, wherein instructions operable to calculate a length of an edge of the glyph that passes through the device pixel comprise instructions operable to:

render a high resolution bitmap representation of the glyph, the bitmap being representative of the initial density values; and

identify initial adjustment pixels along the edges of the high resolution bitmap representation of the glyph, the initial adjustment pixels being high resolution pixels representative of the initial adjustment value of the glyph;

wherein the length of the edge of the glyph that passes through a device pixel is a ratio of the number of initial adjustment pixels in a direction to a grid ratio in a corresponding direction.

18. (Previously Presented) The computer readable medium of claim 17, wherein the glyph is to be rendered without carrying adjustment in a y direction and wherein the instructions operable to identify initial adjustment pixels include instructions to not identify initial adjustment pixels

along an edge of the high resolution bitmap that coincides with a device pixel boundary in the y direction.

19. (Previously Presented) The computer readable medium of claim 17, wherein instructions operable to identify initial adjustment pixels along the edges of the high resolution bitmap include instructions operable to identify initial adjustment pixels in a neighboring device pixel to a device pixel having an initial density value equal to a maximum density value, where the neighboring device pixel has an initial density value of zero, the computer program product further comprising instructions operable to:

calculate a length of an edge of the glyph that passes through the neighboring device pixel; and

adjust the initial density value of the neighboring device pixel by a final adjustment value, the final adjustment value based on the initial adjustment value and the length of the edge passing through the neighboring device pixel.

20. (Previously Presented) The computer readable medium of claim 13, wherein the font is a Type 1 font.

21. (Previously Presented) The computer readable medium of claim 13, wherein the font is a TrueType font.

22. (Previously Presented) A computer-readable medium encoded with a computer program, for rendering a stroke, comprising instructions operable to cause a programmable processor to:

receive a path representing a stroke to be rendered at a given stroke width;

calculate a set of initial density values to provide one density value for each of a set of device pixels to represent the stroke;

calculate an initial adjustment value for the stroke;

for one or more of the device pixels in the set of device pixels, calculate a length of an edge of the stroke that passes through the device pixel;

for one or more of the device pixels, adjust the initial density value of the device pixel by a final adjustment value, the final adjustment value based upon the initial adjustment value and the length of the edge of the stroke passing through the device pixel; and

provide a representation of the stroke on a display device.

23. (Canceled)

24. (Canceled)

25. (Previously Presented) A system for rendering a glyph, the system comprising:

- a processor;

- a storage device coupled to the processor and configurable for storing instructions, which, when executed by the processor, cause the processor to perform operations comprising:

 - receiving a glyph associated with a font, the glyph to be rendered at a size;

 - calculating a set of initial density values to provide one density value for each of a set of device pixels to represent the glyph;

 - calculating an initial adjustment value for the glyph;

 - calculating for one or more of the device pixels in the set of device pixels a length of an edge of the glyph that passes through the device pixel;

 - adjusting the initial density value of each of the one or more device pixels by a final adjustment value, the final adjustment value based upon the initial adjustment value and the length of the edge of the glyph passing through the device pixel; and

 - providing a representation of the glyph on a display device.

26. (Previously Presented) The system of claim 25, wherein calculating an initial adjustment value comprise:

- determining a standard stem width for the font;

- calculating a scaled stem width from the standard stem width and the size; and

- determining an initial adjustment value based on the scaled stem width.

27. (Previously Presented) The system of claim 25, wherein calculating an initial adjustment value comprises:

- determining a horizontal standard stem width and a vertical standard stem width for the font;

- calculating a horizontal scaled stem width from the horizontal standard stem width and the size and calculating a vertical scaled stem width from the vertical standard stem width and the size;

- determining a horizontal initial adjustment value based on the horizontal scaled stem

width and determining a vertical initial adjustment value based on the vertical scaled stem width;
and

wherein the final adjustment value is based upon the horizontal initial adjustment value,
the vertical initial adjustment and the horizontal and vertical lengths of the edge of the glyph
passing through the device pixel.

28. (Previously Presented) The system of claim 25, wherein for a stroke of the glyph that is to
be asymmetrically adjusted, calculating an initial adjustment value comprises:

determining a standard stem width for the font;

calculating a scaled stem width from the standard stem width and the size; and

determining an initial adjustment value for a subset of device pixels forming an edge of
the stroke based on the scaled stem width and the initial density values of the subset of device
pixels.

29. (Previously Presented) The system of claim 25, wherein calculating a length of an edge of
the glyph that passes through the device pixel comprises:

rendering a high resolution bitmap representation of the glyph, the bitmap being
representative of the initial density values; and

identifying initial adjustment pixels along the edges of the high resolution bitmap
representation of the glyph, the initial adjustment pixels being high resolution pixels
representative of the initial adjustment value of the glyph;

wherein the length of the edge of the glyph that passes through a device pixel is a ratio of
the number of initial adjustment pixels in a direction to a grid ratio in a corresponding direction.

30. (Previously Presented) The system of claim 29, wherein the glyph is to be rendered without
carrying adjustment in a y direction and wherein identifying initial adjustment pixels step
includes not identifying initial adjustment pixels along an edge of the high resolution bitmap that
coincides with a device pixel boundary in the y direction.

31. (Previously Presented) The system of claim 29, wherein identifying initial adjustment pixels along the edges of the high resolution bitmap includes identifying initial adjustment pixels in a neighboring device pixel to a device pixel having an initial density value equal to a maximum density value, where the neighboring device pixel has an initial density value of zero, the instructions further operable to cause the processor to perform operations comprising:

- calculating a length of an edge of the glyph that passes through the neighboring device pixel; and

- adjusting the initial density value of the neighboring device pixel by a final adjustment value, the final adjustment value based on the initial adjustment value and the length of the edge passing through the neighboring device pixel.

32. (Original) The system of claim 25, wherein the font is a Type 1 font.

33. (Original) The system of claim 25, wherein the font is a TrueType font.

34. (Previously Presented) A system of rendering a stroke, comprising:

- a processor;

- a storage device coupled to the processor and configurable for storing instructions, which, when executed by the processor, cause the processor to perform operations comprising:

- receiving a path representing a stroke to be rendered at a given stroke width;

- calculating a set of initial density values to provide one density value for each of a set of device pixels to represent the stroke;

- calculating an initial adjustment value for the stroke;

- for one or more of the device pixels in the set of device pixels, calculating a length of an edge of the stroke that passes through the device pixel;

- for one or more of the device pixels, adjusting the initial density value of the device pixel by a final adjustment value, the final adjustment value based upon the initial adjustment value and the length of the edge of the stroke passing through the device pixel; and

- providing a representation of the stroke on a display device.

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35. (Canceled)

36. (Canceled)

37. (Canceled)